



US Department
of Transportation

Research and
Special Programs
Administration

400 Seventh St. S.W.
Washington, D.C. 20590

JUL 17 2003

Mr. James Sanders
Manager
CITGO Petroleum Corporation
1 Warren Place
6100 South Yale Avenue
Tulsa, OK 74102

Re: CPF No. 3-2003-5019H

Dear Mr. Sanders:

Enclosed is a Corrective Action Order issued by the Associate Administrator for Pipeline Safety in the above-referenced case. It requires you to take certain corrective actions, including a pressure reduction, with respect to certain portions of your 16-inch petroleum products pipeline designated as the West Shore A-Line. Service is being made by certified mail and facsimile. Your receipt of this Order constitutes service of that document under 49 C.F.R. § 190.5. The terms and conditions of this Corrective Action Order are effective upon receipt.

Sincerely,


for Gwendolyn M. Hill
Pipeline Compliance Registry
Office of Pipeline Safety

Enclosure

cc: Jay Andrews
West Shore Pipe Line Company
3400 South Badger Road
Arlington Heights, IL 60005
FAX: 847-439-0831

VIA CERTIFIED MAIL (RETURN RECEIPT REQUESTED) AND TELECOPY

**DEPARTMENT OF TRANSPORTATION
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION
WASHINGTON, DC 20590**

In the Matter of)

CITGO Petroleum Corp.,)

Respondent.)

CPF No. 3-2003-5019H |

CORRECTIVE ACTION ORDER

Purpose and Background

This Corrective Action Order is being issued, under authority of 49 U.S.C. § 60112, to require CITGO Petroleum Corporation (Respondent) to take the necessary corrective action to protect the public, property, and the environment from potential hazards associated with a failure involving the portion of Respondent's 16-inch petroleum products pipeline, designated as the "West Shore A-Line," extending from the Bell Pump Station in Cook County, Illinois to the Lindenhurst Pump Station in Lake County, Illinois (hereinafter, "the affected segment").

On July 10, 2003, a failure occurred on the affected segment near the town of Lemont, Illinois. The cause of the failure has not yet been determined. Pursuant to 49 U.S.C. § 60117, the Central Region, Office of Pipeline Safety (OPS) initiated an investigation of the incident.

Preliminary Findings

- On July 10, 2003, at approximately 8:00 A.M. CDT, Respondent's West Shore A-Line experienced a failure in Cook County, IL resulting in the release of unleaded gasoline into the environment. The preliminary estimate of the volume of unleaded gasoline released was approximately 25 barrels. The failure occurred at Mile Post (MP) 29.59 approximately 3.5 miles northeast of the town of Lemont, IL in a marsh area next to an industrial zone.
- No fires, injuries, fatalities, or evacuations were reported in connection with the incident.
- Respondent's West Shore A-Line transports refined petroleum products from its origin at Hammond Station in Lake County, Indiana, in a northerly direction along the western shoreline of Lake Michigan to its terminal point at the South Green Bay Station in Brown County, Wisconsin. It is one of 3 pipelines that are the main supply lines for O'Hare Airport. It's total length is approximately 241 miles.

- The affected segment on which the release occurred extends approximately 56 miles from the Bell Pump Station located at MP 25.86 to the Lindenhurst Pump Station located at MP 82.22. Portions of the affected segment are routed near populated areas and cross numerous state and local highways.
- Following the failure, Respondent mitigated the release by shutting down the Bell Pump Station. The nearest upstream block valve at MP 28.29 and the nearest downstream block valve at MP 29.95 were closed within approximately 90 minutes of the failure.
- The visual inspection and preliminary investigation indicated the presence of a 3-inch long smooth dent on the top of the pipe which contained a longitudinal 1-inch long through-wall crack in the body of the pipe. No gouges or scratches to the pipe coating were detected and there were no reports of any recent excavation activity in the vicinity. The investigation is ongoing and the cause of the failure has not yet been determined.
- The portion of pipe containing the failed section was cut out and replaced with new pre-tested pipe. The pipeline was returned to service at a reduced pressure of 800 psig at approximately 6:00 A.M. July 12, 2003. Respondent has delivered the section of pipe containing the failure origin to a metallurgist for detailed testing.
- The West Shore A-Line was installed in 1961 and is constructed of 16-inch nominal diameter, 0.250-inch wall thickness, Grade X-52, pipe manufactured by Youngstown Sheet & Tube Company. It has a coal tar coating and is cathodically protected by impressed current.
- The maximum allowable operating pressure of the West Shore A-Line is 1116 psig. At the time of the failure, the affected segment's actual operating pressure at the Bell Pump Station discharge point was 1046 psig and the operating pressure at the failure site was 1053 psig due to additional hydraulic gradient pressure.
- The affected segment was hydrostatically tested in 2000 at a pressure of 1468 psig. Internal inspections were performed on the pipeline with a high-resolution magnetic flux leakage in-line inspection tool and a geometry tool in 1999 and again in 2003. The tool vendor has not yet provided the results of the 2003 internal inspections to the Respondent.

Determination of Necessity for Corrective Action Order and Right to Hearing

Section 60112 of Title 49, United States Code, provides for the issuance of a Corrective Action Order, after reasonable notice and the opportunity for a hearing, requiring corrective action, which may include the suspended or restricted use of a pipeline facility, physical inspection, testing, repair, replacement, or other action as appropriate. The basis for making the determination that a pipeline facility is hazardous, requiring corrective action, is set forth both in the above referenced statute and 49 C.F.R. §190.233, a copy of which is enclosed.

Section 60112, and the regulations promulgated thereunder, provides for the issuance of a Corrective Action Order without prior opportunity for notice and hearing upon a finding that failure to issue the Order expeditiously will result in likely serious harm to life, property or the environment. In such cases, an opportunity for a hearing will be provided as soon as practicable after the issuance of the Order.

After evaluating the foregoing preliminary findings of fact, I find that the continued operation of the affected segment of Respondent's West Shore A-Line without corrective measures would be hazardous to life, property and the environment. Additionally, after considering the age of the pipe, the proximity of the pipeline to populated and environmentally sensitive areas, the highly combustible nature of the product the pipeline transports, the pressure required for transporting the material, and the lack of any clear indication as to the cause of the failure, I find that a failure to expeditiously issue this Order requiring immediate corrective action would likely result in serious harm to life, property, or the environment.

Accordingly, this Corrective Action Order mandating immediate corrective action is issued without prior notice and opportunity for a hearing. The terms and conditions of this Order are effective upon receipt.

Within 10 days of receipt of this Order, Respondent may request a hearing, to be held as soon as practicable, by notifying the Associate Administrator for Pipeline Safety in writing, delivered personally, by mail or by telecopy at (202) 366-4566. The hearing will be held in Kansas City, MO or Washington, DC on a date that is mutually convenient to OPS and Respondent.

After receiving and analyzing additional data in the course of this investigation, OPS may identify other corrective measures that need to be taken. In that event, Respondent will be notified of any additional measures required and amendment of this Order will be considered. To the extent consistent with safety, Respondent will be afforded notice and an opportunity for a hearing prior to the imposition of any additional corrective measures.

Required Corrective Action

Pursuant to 49 U.S.C. § 60112, I hereby order CITGO Petroleum Corporation to immediately take the following corrective actions with respect to the portion of its 16-inch West Shore A-Line pipeline extending from the Bell Pump Station in Cook County, Illinois to the Lindenhurst Pump Station in Lake County, Illinois:

1. Maintain an operating pressure in the affected segment not to exceed 80 percent of the actual operating pressure at the Bell Pump Station discharge point just prior to the July 10, 2003 failure. Specifically, the pressure may not exceed 800 psig at the Bell Pump Station discharge point in order to maintain the minimum percentage of reduction at all times due to the fact that the line transports several different petroleum products with different hydraulic gradients. This

pressure restriction shall remain in effect until written approval to increase the pressure or return the pipeline to full service is obtained from the Director, Central Region, OPS.

2. Within 7 days of receipt of this Order, submit a protocol for mechanical and metallurgical testing of the failed pipe section to the Director, Central Region, OPS for prior approval. Provide the Director with the date scheduled for this testing, which OPS may elect to witness. Conduct all mechanical and metallurgical testing of the failed pipe section per the approved protocol. Submit the metallurgical report to the Director within 7 days of receiving it from the metallurgist.
3. Conduct an in-depth analysis of the 2003 high-resolution magnetic flux leakage in-line inspection tool data and the geometry tool data to identify any deformation anomalies of a magnitude similar to the failure site, or any other integrity concerns on the affected segment. Submit the in-line inspection summary report to the Director, Central Region, OPS, within 7 days of receiving it from the tool vendor. Include information on the nature and location of any anomalies encountered.
4. Perform a comprehensive failure analysis by integrating the information obtained from Items 2 and 3 with all available operational data from hydrostatic testing, leak history, repair records, corrosion control records, other in-line inspections including geometry tool runs, changes in pressure cycling and hydraulic gradients, and other historical data for the purpose of identifying all factors causing or contributing to the July 10, 2003 failure. The failure analysis must include consideration of whether previously conducted hydrostatic testing or any other factor influenced crack growth, and assess the likelihood of the development of part through-wall or through-wall cracks in other pipe wall deformations with similar geometry to the deformation detected at the failure site.
5. Within 30 days of receipt of this Order, develop and submit a written plan with corrective measures for prior approval by the Director, Central Region, OPS. The plan must provide for the verification of the integrity of the entire length of the affected segment and must include:
 - A. the performance of appropriate repairs or other remedial actions fully addressing all factors that caused or contributed to the July 10, 2003 failure identified as a result of the investigation and failure analysis actions required by this Order, or otherwise known or suspected by Respondent;
 - B. the integration of all available operational data from in-line inspections, hydrostatic testing, leak history, repair records, corrosion control records, changes in pressure cycling and hydraulic gradients, and other historical data for the purpose of identifying and implementing any other corrective measures necessary to maintain the integrity of the affected segment;
 - C. consideration of the 2003 high-resolution magnetic flux leakage in-line inspection tool results and the geometry tool results required by Item 3 for the purpose of identifying the

location of any deformation anomalies of a magnitude similar to the failure site, and a determination of whether any data features would indicate the presence of part through-wall cracks;

- D. the re-evaluation of the pressure recording charts from the 2000 hydrostatic testing on the affected segment;
 - E. a detailed description of the assessment criteria that will be used in the evaluation and prioritization of any anomalies that are identified, and a detailed description of the repair criteria that will be used in addressing the anomalies that are excavated;
 - F. a proposed schedule for completion of the testing and repairs.
- 6. Submit the plan to: Director, Central Region, Office of Pipeline Safety, 901 Locust Street, Suite 462, Kansas City, MO 64106-2641. The plan must be revised as necessary to incorporate new information obtained during the failure investigation and analysis actions required by this Order. Submit such plan revisions to the Director for prior approval. The Director may approve plan elements incrementally. Implement the plan as approved, including any revisions to the plan.
 - 7. The Director, Central Region, OPS may allow the removal or modification of the pressure restriction set forth in Item 1 upon a written request from Respondent demonstrating that the hazard has been abated and that restoring the pipeline to its pre-failure operating pressure is justified based on a reliable engineering analysis showing that the pressure increase is safe considering all known defects, anomalies and operating parameters of the pipeline.
 - 8. The Director, Central Region, OPS may grant an extension of time for compliance with any of the terms of this Order for good cause. A request for an extension must be in writing.
 - 9. The corrective actions required by this Corrective Action Order are in addition to and do not waive any requirements that apply to the affected segment under 49 C.F.R. Part 195, including the integrity management program regulations.

Respondent may appeal any decision of the Regional Director to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator shall be final.

Failure to comply with this Order may result in the assessment of civil penalties of not more than \$100,000 per day and in referral to the Attorney General for appropriate relief in United States District Court.



in Stacey Gerard
Associate Administrator
for Pipeline Safety

JUL 17 2003

Date Issued